WHAT IS CLAIMED IS:

1. A projection type color display device comprising:

a white light source;

light flux separating unit which separates a visible light flux emitted from the white light source into three primary colors of red, green and blue;

image display elements corresponding to respective colors of light fluxes as split by said light flux separating unit, each said element including a matrix array of pixels and having unit which modulates optical intensity of the light flux depending on an amplitude of an image signal as input thereto;

photosynthetic unit for combining together the light fluxes of respective colors subjected to optical intensity modulation by said image display elements; and

a projection lens for projecting image light thus combined by said photosynthetic unit in an enlarged form onto a screen, wherein

during red image displaying, an image display element corresponding to red color is modulated by a red image signal while adding to a blue image signal a signal with its amplitude being about 1/n times (n is a natural number) that of said red image signal to thereby modulate by an add signal an image display element corresponding to blue color.

2. The projection type color display device

according to claim 1, wherein said white light source is arranged so that a light energy of red light region is less than a light energy of remaining color light regions.

3. The projection type color display device according to claim 2, wherein said white light source includes any one of an ultra-high pressure mercury lamp, a xenon lamp and a metal halide lamp.

4. The projection type color display device according to claim 1, wherein said white light source includes any one of an ultrahigh pressure mercury lamp, a xenon lamp and a metal halide lamp.

5. The projection type color display device according to claim 1, wherein when average energy intensities of the light fluxes of the three primary colors of red, green and blue as split by said light flux separating unit are given as EB, EG and ER, the following relationships are satisfied:

$$EG > 3 \cdot ER$$

$$EB > 3 \cdot ER$$

where, EG is an average energy of 535(nm) to 565(nm) of the white light source, ER is an average energy of 600(nm) to 630(nm) of the white light source, and EB is an average energy of 435(nm) to 465(nm) of the white light source.

6. The projection type color display device according to claim 2, wherein when average energy intensities of the light fluxes of the three primary

colors of red, green and blue as split by said light flux separating unit are given as EB, EG and ER, the following relationships are satisfied:

$$EG>3\cdot ER$$

$$EB>3\cdot ER$$

where, EG is an average energy of 535(nm) to 565(nm) of the white light source, ER is an average energy of 600(nm) to 630(nm) of the white light source, and EB is an average energy of 435(nm) to 465(nm) of the white light source.

7. The projection type color display device according to claim 3, wherein when average energy intensities of the light fluxes of the three primary colors of red, green and blue as split by said light flux separating unit are given as EB, EG and ER, the following relationships are satisfied:

$$EG>3\cdot ER$$

$$EB>3\cdot ER$$

where, EG is an average energy of 535(nm) to 565(nm) of the white light source, ER is an average energy of 600(nm) to 630(nm) of the white light source, and EB is an average energy of 435(nm) to 465(nm) of the white light source.

8. The projection type color display device according to claim 4, wherein when average energy intensities of the light fluxes of the three primary colors of red, green and blue as split by said light flux separating unit are given as EB, EG and ER, the

following relationships are satisfied:

$$EG>3\cdot ER$$

$$EB>3\cdot ER$$

where, EG is an average energy of 535(nm) to 565(nm) of the white light source, ER is an average energy of 600(nm) to 630(nm) of the white light source, and EB is an average energy of 435(nm) to 465(nm) of the white light source.

9. A projection type color display device comprising:

a white light source;

light flux separating unit which separates a visible light flux emitted from the white light source into three primary colors of red, green and blue;

image display elements corresponding to respective colors of light fluxes as split by said light flux separating unit, each said element including a matrix array of pixels and having unit which modulates optical intensity of the light flux depending on an amplitude of an image signal as input thereto;

photosynthetic unit for combining together the light fluxes of respective colors subjected to optical intensity modulation by said image display elements;

a projection lens for projecting image light thus combined by said photosynthetic unit; and

an optical-path fold mirror for folding projected light from said projection lens and for

projecting the light in an enlarged form onto a screen, wherein

during red image displaying, an image display element corresponding to red color is modulated by a red image signal while adding to a blue image signal a signal with its amplitude being about 1/n times (n is a natural number) that of said red image signal to thereby modulate by an add signal an image display element corresponding to blue color.

10. The projection type color display device according to claim 9, wherein said white light source is arranged so that a light energy of red light region is less than a light energy of remaining color light regions.

11. The projection type color display device according to claim 9, wherein said white light source includes any one of an ultrahigh pressure mercury lamp, a xenon lamp and a metal halide lamp.

12. The projection type color display device according to claim 9, wherein when average energy intensities of the light fluxes of the three primary colors of red, green and blue as split by said light flux separating unit are given by EB, EG and ER, the following relationships are satisfied:

$$EG > 3 \cdot ER$$

$$EB > 3 \cdot ER$$

where, EG is an average energy of 535(nm) to 565(nm) of the white light source, ER is an average energy of

600(nm) to 630(nm) of the white light source, and EB is an average energy of 435(nm) to 465(nm) of the white light source.

13. A projection type color display device comprising:

a white light source;

light flux separating unit which separates a visible light flux emitted from the white light source into three primary colors of red, green and blue;

image display elements corresponding to respective colors of light fluxes as split by said light flux separating unit, each said element including a matrix array of pixels and having unit which modulates optical intensity of the light flux depending on an amplitude of an image signal as input thereto;

photosynthetic unit for combining together the light fluxes of respective colors subjected to optical intensity modulation by said image display elements; and

a projection lens for projecting image light thus combined by said photosynthetic unit in an enlarged form onto a screen, wherein

during red image displaying, an image display element corresponding to red color is modulated by a red image signal, wherein said device has control unit for controlling an amplitude of said red image signal, and wherein the red image signal as amplitude-controlled by said control unit is added to a blue

image signal for driving said image display element corresponding to the blue color based on an add signal to thereby adjust chromaticity of an enlarged projection image on said screen.

14. The projection type color display device according to claim 13, wherein said white light source is arranged so that a light energy of red light region is less than a light energy of remaining color light regions.

15. The projection type color display device according to claim 13, wherein said white light source includes any one of an ultrahigh pressure mercury lamp, a xenon lamp and a metal halide lamp.

16. The projection type color display device according to claim 13, wherein when average energy intensities of the light fluxes of the three primary colors of red, green and blue as split by said light flux separating unit are given as EB, EG and ER, the following relationships are satisfied:

$$EG > 3 \cdot ER$$

$$EB > 3 \cdot ER$$

where, EG is an average energy of 535(nm) to 565(nm) of the white light source, ER is an average energy of 600(nm) to 630(nm) of the white light source, and EB is an average energy of 435(nm) to 465(nm) of the white light source.

17. A projection type color display device comprising:

a white light source;

light flux separating unit which separates a visible light flux emitted from the white light source into three primary colors of red, green and blue;

image display elements corresponding to respective colors of light fluxes as split by said light flux separating unit, each said element including a matrix array of pixels and having unit which modulates optical intensity of the light flux depending on an amplitude of an image signal as input thereto;

photosynthetic unit for combining together the light fluxes of respective colors subjected to optical intensity modulation by said image display elements;

a projection lens for projecting image light thus combined by said photosynthetic unit; and

an optical-path fold mirror for folding projected light from said projection lens and for projecting the light in an enlarged form onto a screen, wherein

during red image displaying, an image display element corresponding to red color is modulated by a red image signal, wherein said device has control unit for controlling an amplitude of said red image signal, and wherein the red image signal as amplitude-controlled by said control unit is added to a blue image signal for driving said image display element corresponding to the blue color based on an add signal

to thereby adjust chromaticity of an enlarged projection image on said screen.

18. The projection type color display device according to claim 17, wherein said white light source is such that a light energy of red light region is less than a light energy of remaining color light regions.

19. The projection type color display device according to claim 17, wherein said white light source includes any one of an ultrahigh pressure mercury lamp, a xenon lamp and a metal halide lamp.

20. The projection type color display device according to claim 17, wherein when average energy intensities of the light fluxes of the three primary colors of red, green and blue as split by said light flux separating unit are given as EB, EG and ER, the following relationships are satisfied:

$$EG > 3 \cdot ER$$

$$EB > 3 \cdot ER$$

where, EG is an average energy of 535(nm) to 565(nm) of the white light source, ER is an average energy of 600(nm) to 630(nm) of the white light source, and EB is an average energy of 435(nm) to 465(nm) of the white light source.